

DOCUMENT RESUME

ED 318 888

CE 054 756

TITLE Understanding Learning Outcomes. A Development Paper.

INSTITUTION National Inst. of Adult Continuing Education, Leicester (England). Unit for the Development of Adult Continuing Education.

REPORT NO ISBN-0-900559-91-8

PUB DATE Nov 89

NOTE 23p.

AVAILABLE FROM National Institute of Adult Continuing Education Publications Sales Department, 19B De Montfort Street, Leicester LE1 7GE, England (2.00 pounds).

PUB TYPE Viewpoints (120)

EDRS PRICE MF01/PC01 Plus Postage.

DESCRIPTORS Accreditation (Institutions); Adult Education; Adult Students; Criterion Referenced Tests; *Evaluation Criteria; Foreign Countries; *Instructional Effectiveness; Norm Referenced Tests; *Outcomes of Education; *Student Educational Objectives; *Student Evaluation; Testing; Vocational Education

ABSTRACT

A greater emphasis on the outcomes of learning should help provide more effective approaches to learning and widen participation. More careful and comprehensive analysis of outcomes could also make evaluation and curriculum development more effective. Education and training bring about change (learning outcomes) in individuals. Those outcomes include subject-based outcomes such as knowledge and comprehension, and personal outcomes, including interpersonal skills such as teamwork and intra-personal skills such as critical self-reflection. Describing and recognizing the outcomes of learning provides an opportunity to recognize that the achievements of learners are concerned with a broad range of benefits, including knowledge and competence. Outcomes describe explicitly what learners will be able to do as a result of learning as well as the standards that will be required in the accreditation and assessment of learning. Learning outcomes could be the basis of unit credit systems in vocational and nonvocational areas of education. Learning outcomes offer a means of measuring effectiveness as distinct from simple efficiency. If outcomes are to be a useful tool, they must be clearly described, have publicly stated standards, and be capable of valid and reliable assessment. A framework for assessing outcomes would involve assessing (1) those outcomes expected by learners, education providers, and customers (such as employers); (2) actual outcomes that may affect any of those groups but that may not have been expected; and (3) those that are criterion referenced, norm referenced, or personally referenced. (CML)

* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *

ED318888

UDACE

Understanding Learning Outcomes

DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION
CENTER (ERIC)

- ☒ This document has been reproduced as received from the person or organization originating it.
- ☐ Minor changes have been made to improve reproduction quality.
- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

"PERMISSION TO REPRODUCE THIS
MATERIAL HAS BEEN GRANTED BY

B A Joyce

TO THE EDUCATIONAL RESOURCES
INFORMATION CENTER (ERIC)."



2

BEST COPY AVAILABLE

Unit for the Development of Adult Continuing Education

06054756

**UDACE Assessment of
Competence Steering Group
Membership**

Ray Cowell (Chair)

John Fairhurst

Michael Jubb

David Pierce

Derek Pollard

David Robertson

Freda Tallantyre

Director, Trent Polytechnic

Her Majesty's Inspectorate

Department of Education and Science

Department of Employment Training Agency

Council for National Academic Awards

Liverpool Polytechnic

Newcastle upon Tyne Polytechnic

UDACE Staff

Stephen McNair

Sue Otter

Jackie Riley

Head of Unit

Development Officer

Support Staff

UNDERSTANDING LEARNING OUTCOMES

A Development Paper

UDACE

Unit for the Development of Adult
Continuing Education

A UDACE Development Paper

Published and distributed by
National Institute of Adult Continuing Education
19b De Montfort Street
LEICESTER LE1 7GE

© NIACE 1989
All rights reserved

November 1989

ISBN 0 900559 91 8
Price £2.00 (including postage and packing)

Printed by
Stanley L Hunt Ltd, Rushden, Northants

UDACE is a unit of the National Institute of Adult Continuing
Education (NIACE)

Preface

The term learning outcomes is being increasingly used in education and training to describe the gains, benefits or achievements of learners. This paper examines what is meant by learning outcomes and looks at how they could be used as measures of the achievement of learners as well as of the effectiveness of learning provision. It proposes that clearer descriptions of learning outcomes can have particular advantages for adult learners and that they could be used as the basis of accreditation. It ends by describing a framework which could be used in the development of an outcome led approach to learning and outlines the approaches which UDACE intends to take to this work.

Introduction

Much work on the development of education and training for adults has concentrated on the content and process of learning rather than on its outcomes. This has tended to focus on syllabuses and courses as the starting point for provision and required the student to adjust her or himself to an established curriculum and mode of delivery. This paper argues that a greater emphasis on the outcomes of learning could help to provide both more effective approaches to learning and to widen participation. More careful and comprehensive analysis of outcomes – both those planned and those actually occurring – could also make processes of evaluation and curricular development more effective.

The paper argues that:

- many important outcomes of learning are not formally recognised or adequately described;
- learning outcomes could provide useful measures of student achievement;
- the use of learning outcomes has particular advantages for adult learners;
- learning outcomes could be used as a basis for accreditation;
- learning outcomes could be used in the measurement of the effectiveness of learning processes;
- describing learning outcomes should be a collaborative process, involving the learner, teacher, provider and customer: the employer, community and taxpayer.

The paper concludes by outlining some further work which UDACE proposes to undertake.

Recognising the Outcomes of Learning

Education and training is concerned with bringing about change in individuals. This is a complex process, the results of which are the 'outcomes of learning' which usually include:

- **subject-based outcomes**, knowledge and comprehension, the ability to apply knowledge in different situations and the processing skills acquired through the use and application of knowledge;
- **personal outcomes**, including interpersonal skills like teamwork and negotiation, and intra-personal skills like motivation, initiative and critical self reflection.

Some of these outcomes, particularly those concerned with knowledge and its application, are described and recognised through formal qualifications. However, there are other outcomes which are not described and recognised in this way but which may be of great value to both the learner and the provider of education and training. These outcomes are also important to the customers of education and training, to employers and to the community generally, and they form part of a range of expected benefits of education. Some examples are shown on the next pages.

These outcomes are not formally recognised, and as a result may appear to both the learners and the tutor to be less important than formal knowledge measured in examinations. Failure to recognise and accredit these outcomes leads to measures of the effectiveness or efficiency of the course being concerned only with the number of students attending or completing the course, or with examination results rather than with reflecting the full range of gains made by the learner.

We suggest that a priority in the development of education and training for adults should be attempts to develop more complete and relevant descriptions of learning outcomes.

Increased self-awareness

The success of many courses for adult returners may be seen by both the learner and the teacher to be concerned with increased self-awareness and the development of positive attitudes to learning. These outcomes are rarely formally recognised and although widely regarded as valuable and important, do not contribute to any assessment of the value of the course or programme.

The approach to increasing self-awareness varies in such courses and it may or may not be a clearly stated objective for both teacher and learner and may be more difficult to develop and recognise where it is not explicitly stated and discussed.

Improved verbal communication skills

These may be specifically developed through tutorials, discussions and group work exercises which are designed by the tutor to improve these skills.

They are however unlikely to be formally recognised by either the tutor or the learner, although both regard them as important and desirable. They are not therefore measured or accredited and may appear to carry little weight in comparison with formal knowledge measured through tests and examinations.

The ability to plan and carry out work independently

The ability to work independently may be an outcome of many courses, and it may be specifically developed through project work and seminars. This is a very desirable outcome of learning for employers and evidence may be provided by tutors in the form of references. It is an outcome which is often informally recognised by tutors as a means of recognising the quality or grade of a student, for example of a student awarded distinction or 1st class Honours. It is however not an outcome which is specifically described nor is it objectively assessed or accredited.

Placement in relevant employment

The nature of subsequent employment may be regarded as an important outcome for some courses and some teaching staff would regard the inspiration and motivation to continue work in a particular subject area as an important outcome. This type of outcome is plainly influenced by the opportunities available and is subject to 'market forces' of an uncontrollable nature. It could however be useful to look at an adjusted measure of relevant employment as an outcome in some of the more resource intensive areas of higher and further education.

Competence

Occupational competence is an outcome of vocational courses recognised by the National Council for Vocational Qualifications (NCVQ). Here the learning outcomes are stated in the competence units and the associated performance criteria. The NCVQ approach to competence is based on standards required in an occupation, and the outcomes required are described with the co-operation of employers through Lead Bodies. Current evidence suggests that this approach may be sound at levels 1 and 2, but that the competences and outcomes of learning at higher levels may be more elusive.

Competence in a particular task is an outcome of many other vocational courses in HE and AE. Work experience and sandwich training are parts of some courses and provide learning opportunities not offered in the classroom. The outcomes of this learning are widely regarded as beneficial for the student and the demand for students with work experience and sandwich training is further evidence of the quality of such learning. However, the competences acquired are often not clearly described, assessed or accredited, and participation in the process is taken to be sufficient evidence of learning. This makes it very difficult to compare, measure or evaluate the process of work experience and sandwich training and equally difficult to measure the value-added for the learner.

Measuring Student Achievement

Describing and recognising the outcomes of learning provides an opportunity to recognise that the achievements of learners are concerned with a broad range of benefits including knowledge and competence.

Adults take part in education and training for many reasons; because they want to learn more, do more, get a job, get a better job. Equally, they achieve many different things through learning. Some of these are recognised through certificates and qualifications, while others may be reflected in what the learner does subsequently: for example finding a job or earning more money, getting more personal satisfaction.

There is clear support for the recognition of broader concepts of achievement in the HE White Paper, 'Meeting the Challenge' (1987), which argues that standards and quality of teaching in HE need to be judged by reference mainly to students' achievements. The paper describes the numbers and class of degrees and non-completion rates as being 'some measure' but sees 'standards of attainment in specialist knowledge, and competence associated with the particular subject of study' as being 'key criteria'.

Measuring the increase in knowledge would appear to be a fairly straight forward process, and one in which there is already considerable experience and expertise. The place of knowledge is changing, however, and as knowledge (particularly technical knowledge) expands the ability to process and handle information as well as to continually update are the achievements which will be required of learners in the future.

Competence is more problematic. The word is applied and understood in many ways and a single unifying definition does not exist. There are some approaches to the assessment and accreditation of competence, but there is as yet little expertise. Definitions of competence in vocational education are often narrowly based on performance to a standard which excludes elements of achievement like the development of learning skills, persistence or teamwork.

Measuring achievement requires a broader understanding and definition of competence than that used by NCVQ. This may be helped by a careful examination and description of all the outcomes of learning. This could build a clearer picture of all the benefits which result from learning and provide a clearer understanding of both competence and achievement.

Advantages for Adult Learners

Outcomes describe explicitly what learners will be able to do as a result of learning as well as the standards which will be required in the accreditation and assessment of that learning. This can help to improve the quality of choice for the learner and help to avoid drop-out. It can also help both learner and tutor to recognise existing learning more efficiently.

When adults look for learning opportunities they are faced with more choice than other learners and a greater problem in choosing what is appropriate.

Learning opportunities are conventionally presented in the form of courses, which are the basic units through which most formal education is planned, resourced and delivered. The course is largely what is on offer to the learner. It may be presented in more or less enticing terms but there is usually a description of the course content (what will be taught) and the process (how it will be taught). The content of some courses is broken up into a series of small units or modules which may be separately assessed and accredited. The process may include formal classroom teaching as well as distance and open learning and flexible attendance.

Courses are usually presented as a description of input and process, a list of contents, and indications of modes of study. This may be helpful or mystifying to the potential learner, since there is no indication of the outcome in terms of the standard required or of the depth or the range of knowledge or understanding and the likely personal benefits.

Most courses have a list of objectives which are prepared by a course team or tutor. These describe what the tutor expects of the learner. In some cases these are statements of outcome, 'The student will be able to...' (BTEC) and in some cases they are statements of process 'The student will complete a project, undertake work in...etc'.

Describing a course in terms of outcomes, what the learner will be expected to be able to do, or know, as a result requires some kind of standard, or performance criteria, and some information on how the knowledge or competence will be assessed. This information could help the potential learner to make a better informed choice. Improving choice helps to reduce problems of mismatch, demotivation and drop-out and avoids loss of opportunity, which is particularly important for the adult learner as well as for the provider.

Describing the outcomes of learning may also be helpful to the tutor, since it provides an opportunity to clearly state all the objectives. These may include expectations of performance related to subject content as well as to wider skills in areas like group work and presentation. They may further include expectations of excellence or of the development of particular personal qualities.

Describing outcomes also helps the learner to identify previous learning which may be relevant to the course they are entering, or are now undertaking. This makes the accreditation of prior learning, whether formally acquired or experiential, much easier.

Content and process based course descriptions are often a major barrier to the recognition of learning acquired elsewhere. Unless the previous learning matches the **content** of the current course, both learner and tutor must engage in a potentially lengthy process of matching. While the assessment of experiential learning is clearly a matter for the tutor or assessor and may inevitably be a lengthy process, it could be helped by presenting learning in terms of outcome rather than in terms of teaching input.

Describing courses in terms of outcomes is also empowering and motivating for the adult learner who can thus identify and value previous learning. Similar approaches are used in 'Return to Learn' courses, where identifying existing learning is an important feature of the development of the learner.

This does not suggest that existing approaches to recognising experiential learning, like portfolio preparation, are inappropriate. The process of recognising prior learning of all kinds is valuable to many learners. However the process may be simplified and shortened for some, through the description of the outcomes of courses.

Accrediting existing learning avoids duplication, saves time and resources and allows adult learners to progress more efficiently.

Learning Outcomes and Accreditation

Learning outcomes could be the basis of unit credit systems in vocational and non vocational areas of education. The process of describing and assessing the outcomes of learning could be complex, but would have many advantages for both learners and providers.

There are two questions which need to be considered in deciding whether or how learning outcomes could be used in accreditation. Firstly, do outcomes offer advantages over other credit bases? Secondly, what work and development would be required to provide adequate descriptions of outcomes?

The breaking down of traditional course structures into smaller units and the principle of awarding credits for units has progressed rapidly in all sectors. The CNAA CATS scheme, NCVQ and Open College Networks all use credits and demonstrate the advantages of credit accumulation systems which allow individuals to construct learning programmes which meet their needs, and of credit transfer systems which allow credits awarded in one place to be recognised in another. The value of credit systems is not in doubt. The question is what should the credit be based on and what should it include.

Several different approaches to credit are currently in use. They may be based on subject content, or notional time. Open College Networks, for example, use a credit system based on notional time – the time necessary for a learner under reasonable conditions and with reasonable support to achieve the outcomes of the course. NCVQ, on the other hand, uses a framework of competence units based on a particular kind of outcome and the value of a unit is not described in terms of time. The CNAA CATS scheme is a third model, in which credits are derived by dividing existing courses into smaller, separately accredited, segments.

A learning outcomes approach would propose that credit should be awarded for what the learner knows, can do, or has achieved as a result of learning. Some credit systems are, however, based on courses, and credits are simply awarded for completing parts of courses (modules, units) or for undertaking certain kinds of work or study. Where the credit is awarded simply for completion of a course, the assumption must be either that completion itself is the outcome, or that the process inevitably delivers it. The three year full time degree course has sometimes been viewed in this way. Alternatively the credit may be awarded following assessment of some kind. This approach assumes that the assessment tests all the outcomes.

Learning outcomes pose a challenge to the tutor in areas of education where subject knowledge is commonly the only basis for accreditation. Recognising further outcomes requires that they are given weighting in the accreditation system together with the subject knowledge.

Accrediting the outcomes of learning could be a means of recognising the quality of provision by demonstrating what learners can do as a result of taking part in it. There is a tendency to assume that higher level courses which are more formally taught are in some sense 'better' than the less formal processes which characterise adult non vocational education. Describing and measuring the outcomes of learning could be a means of challenging that assumption by demonstrating the quality of such learning.

There are practical questions about the use of learning outcomes as the basis of a unit credit system. Describing outcomes will help to recognise the broader competences, processing skills and personal skills which result from learning. But before these can be formally accredited two things need to happen. Firstly there need to be reliable means of describing and assessing the outcomes and secondly judgments need to be made as to the credit value of all the outcomes from particular programmes of learning. This is not a small task and there is very little expertise in describing the outcomes of learning. The experience of the introduction of competence based qualifications into the vocational sector has shown that progress is very slow and that the quality of the qualifications produced may be very variable. This is evident from the high proportion of conditional rather than full accreditations so far granted by NCVQ. The prospect of describing the outcomes of courses in higher education is even more complex and will require close collaboration and thorough testing.

Measuring Effectiveness

Learning outcomes offer a means of measuring effectiveness as distinct from simple efficiency.

There is increasing concern about the need to measure the effectiveness of education and training, and to demonstrate value for money.

There are a number of approaches to measuring efficiency and effectiveness and there is increasing interest in indicators of performance which examine the effectiveness of education and training in the broadest possible sense. This calls for measures which do not concentrate solely on the efficiency of course provision (staff-student ratios and completion rates) but include some measures of student achievement.

Many of the measures and indicators in current use are crude, they measure what is readily available and raise fears that the apparently unquantifiable benefits of education may be lost. Crude measures of efficiency may be particularly damaging to adults, who for example may not be seeking employment nor wish to progress to higher levels. Staff student ratios and completion rates are equally problematic. Both are measures of efficient provision in a narrow sense but neither indicates the benefit to or achievement of the learner. An apparently efficient staff student ratio may deliver poor or good learning outcomes. Completion rates may indicate good attendance but are no guarantee of good learning. They may be contra-indicators for adult learners who may successfully transfer to other courses, find employment or simply achieve what they want before the end of the course. 'Drop-out' and 'wastage' are meaningless concepts in the patterns of recurrent education which suit many adult learners.

If the outcomes of learning were described, and if they could be reliably assessed, then they could provide a broad measure of the achievements of learners which did not depend on the process of learning. These could be very useful as measures of the effectiveness of all kinds of courses or less formal learning programmes.

A Collaborative Process

If outcomes are to be a useful tool, they must be:

- clearly described;
- have publicly stated standards;
- be capable of valid and reliable assessment.

This section describes a framework which could be used to describe and test a range of outcomes in different kinds of education and training. It is intended to be a development tool which could help those concerned with the design and delivery of education and training to understand and apply an approach based on outcomes.

The results of this work would be:

- detailed descriptions of the actual outcomes of learning in a range of courses and programmes;
- assessment strategies which reliably and validly measure the outcomes described.

The development model could then be used more widely as a staff and curriculum development tool and the outcomes and assessment methods described in the development work could be used directly or adapted as appropriate.

Describing outcomes

In order to produce adequate descriptions of outcomes, learners, providers and customers will need to work together to share their expectations and experience of particular courses or programmes of learning. This will include a consideration of the objectives of the course designer and the teacher as well as those of the learner and employers. It will require that the standards sought by the three groups are clearly stated for each of the objectives. The process of negotiation which will be required in order for these outcomes to be described is likely to be helpful in itself as a process of course review and evaluation.

Who defines outcomes?

Describing the outcomes of learning is a very complex task. It may be simplified by examining outcomes from the standpoints of the three groups of people who have legitimate expectations of learning:

- **the learners** may expect to benefit from learning in terms of knowledge and understanding of the subject and in terms of personal development. These expectations may be different from those of the tutor and neither may be explicitly aware of the expectations of the other;
- **the providers** (teacher, trainer, manager) have objectives which may be directly concerned with the delivery of subject material as well as hidden curriculum objectives related to the personal skills of learners and the reputation of the institution;
- **the customers** of education – the community, employers and taxpayers, have further expectations of benefit, quality and value for money which again may not be clearly stated.

When are they defined?

All three groups can help to examine both the expected outcomes of learning and the actual outcomes achieved by learners.

- **the expected outcomes** of learning are what each group intends that the learner should achieve. These include the objectives of the course planners and teachers in designing and delivering courses as well as the less precisely defined 'benefits' of education which are sought by the customers and the learners.
- **the actual outcomes** for learners may include the expected outcomes as well as other outcomes which were not expected by either the provider, the customer or the learner. These may be revealed by subsequent research and may include 'windfall' outcomes of considerable value.

The inter-relationship between the three groups and the expected and actual outcomes can be shown as a matrix.

	Expected outcomes (objectives)	Actual outcomes (discovered)
Learners		
Providers		
Customers		

Assessing outcomes

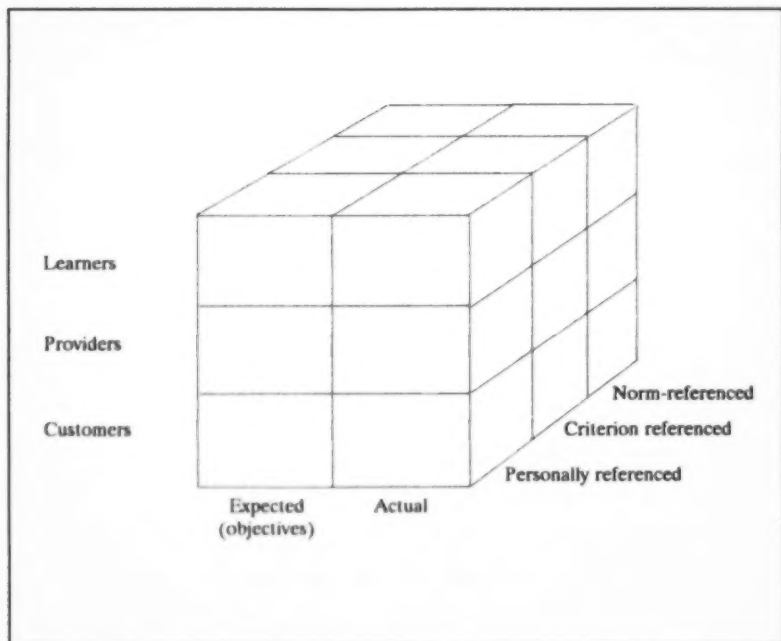
This will require the development of novel assessment approaches and the co-ordination of existing assessment systems to provide a clearer picture of the outcomes for learners. The work will include testing cohorts of students in order to measure the extent to which expected outcomes have been achieved and to look for evidence of further outcomes which were not planned. In some fields the collaboration of employers and other agencies with expertise in selection and personal development programmes would also be relevant. There is considerable expertise in schools; as a result of the introduction of Records of Achievement and TVEI; in profiling and in self assessment, and there will be expertise in the assessment of the new NVQ qualifications which could be drawn on.

Several approaches to assessment must be considered in describing and assessing outcomes. Three approaches are used commonly:

- **criterion referenced** – uses a number of indices to produce a profile of the achievement of each individual learner against set of specified criteria or performance standards;
- **norm referenced** – uses single indices and measures the progress of the learner with reference to a group. At one extreme this is used in competitive examinations to identify the 'top 10%';
- **personally referenced** – uses several indices and measures the progress of a learner with reference to his or her own starting point – rather than by comparison with others or an absolute standard.

All three approaches have something to offer in the description of learning outcomes and their subsequent assessment. They may be incorporated

into the matrix described previously to produce a three dimensional framework.



A Framework of Learning Outcomes

Different kinds of education and training have traditionally based their assessment in different areas of this framework. National Vocational Qualifications, for example, are based on the outcomes expected by customers (employers), assessed in criterion referenced terms. Degree courses are principally based on outcomes expected by teachers and measured by a combination of norm-referenced and personally referenced systems. Non-vocational adult education spreads more broadly in the framework but is usually concerned with the personally referenced outcomes expected by learners, or learners interpreted by providers. All of these are partial views, and the framework demonstrates the range of additional perspectives potentially available. An outcomes based education and training system would seek to reflect a wider range of perspectives in all its parts.

A Way Forward

UDACE is interested in exploring outcomes based approaches to learning of all kinds. This will benefit adult learners particularly and has advantages for the providers and the customers of education and training. Two kinds of development are currently planned:

- a series of workshops to develop a broader understanding of the outcome approach;
- projects which examine the outcomes of learning in higher education and adult education developing more appropriate descriptions and assessment processes.

The projects will use the following strategy:

- research the outcomes expected from a range of courses/subjects/fields using information from the three groups of interests (learners, providers and customers);
- compare the expected outcomes with current assessment processes;
- examine the actual outcomes of learners in the courses/subjects/fields;
- compare the expected and the actual outcomes;
- develop assessment processes to measure a broad range of outcomes;
- disseminate the means of describing and assessing learning outcomes through staff development materials and other publications.

UDACE is interested in working with a wide range of institutions and agencies and would welcome enquiries from individuals or institutions interested in collaborating in such work.

UDACE Publications on Competence and Assessment

This development paper is the second in a series from UDACE on issues relating to competence and learning outcomes.

The first examined the notion of competence and its interpretation by the National Council for Vocational Qualifications (NCVQ).

The Unit will also be publishing a paper on institutional performance indicators for the education of adults commenting on the role of competence, and measures of student achievement in such indicators.

Understanding Competence is available at a price of £2.00, from NIACE at the address shown below.

Student Potential in Britain

by Sue Otter

In 1986 the Department of Education and Science and the Manpower Services Commission (now Department of Employment Training Agency) commissioned UDACE to investigate the possible uses of some American structured interviewing techniques in British education and training. The techniques, which assess 'personal effectiveness', were designed for use in admissions selection and were tested in a broad range of institutions from Universities to Skillcentres. This is the report of the project.

UDACE, 1989; 56pp; 0 900559 84 5; £5.00

All publications are available from NIACE Publications Sales Department, 19B De Montfort Street, Leicester LE1 7GE.

UDACE

Understanding Learning Outcomes

What is UDACE?

The Unit for the Development of Adult Continuing Education in England and Wales was created by the Secretary of State for Education and Science within the National Institute of Adult Continuing Education.

The Unit examines areas of possible development in the education of adults, recommends strategies for development and sponsors projects to encourage development.

The overall pattern of the Unit's activity is decided by a Steering Committee which usually works through small development groups of experienced practitioners to examine particular topics.

The Steering Committee gives priority in its work to topics where development

- will improve access to learning opportunities for adults
- will contribute to the creation of a more coherent service of education for adults
- is likely to improve the quality of learning opportunities available to adults

and, where initiatives by the Unit, including the publication of recommendations, guidelines or reports, or the sponsoring of investigations or projects are likely to lead to major improvements in the service.

Steering Committee Membership

Chairman Donald Gratian

Department of Education and Science
Margaret d'Armenia John Steel HMI

Welsh Office Education Department
Owen Jones HMI

Department of Employment Training Agency
Ros Seyd

Local Authority Associations
John Turnbull (ACC) Alan Culley (AMA) Gary Morgan (WJEC)

National Institute of Adult Continuing Education
Eddie Burch Hywel Francis Barbara Marsh
Lydia Merrill Haroon Saad Jenny Scribbins

Co-opted
Ray Cowell Lucia Jones Peter Shaw Jenny Shackleton

Ex-officio
Eileen Aird Jonathan Brown

Head of Unit Stephen McNair
Administrative Officer Sandra Silver

23